



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Patients who have recovered from covid-19

Citation for published version:

Bhopal, R 2020, 'Patients who have recovered from covid-19: issuing certificates and offering voluntary registration', *BMJ (Clinical research ed.)*, vol. 370, pp. m2590. <https://doi.org/10.1136/bmj.m2590>

Digital Object Identifier (DOI):

[10.1136/bmj.m2590](https://doi.org/10.1136/bmj.m2590)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

BMJ (Clinical research ed.)

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.





Usher Institute, University of Edinburgh,
Edinburgh EH3 9AG, UK

raj.bhopal@ed.ac.uk

Cite this as: *BMJ* 2020;370:m2590

<http://dx.doi.org/10.1136/bmj.m2590>

Published: 01 July 2020

COVID-19: RECOVERY CERTIFICATES

Patients who have recovered from covid-19: issuing certificates and offering voluntary registration

Raj Bhopal *emeritus professor of public health*

In my rapid response of 21 March,¹ updated 9 April 2020,² about covid-19 creating extraordinary times demanding imaginative responses,³ I wrote that people who had recovered from proven infection and were not shedding virus were a potentially invaluable asset. Having recovered, I inferred, they must have at least partial, temporary immunity. I recommended that we give them a certificate indicating that they would be largely, if not wholly, immune to a second infection this year.

I anticipated reliable antibody testing would become available, providing further reassurance on immune status, which is becoming true, although it is a controversial matter.⁴ Even a test with 99% sensitivity and specificity only has 83.8% predictive power of a positive test when the prevalence of infection is 5%.⁵ (A supplementary file provides 12 simple tables of sensitivity, specificity, and predictive powers of positive and negative tests at population prevalence of the disease ranging from 1% to 20%.⁵)

I proposed that, with care, recovered patients could serve on the front line, not just in healthcare and nursing homes but also in retailers and factories. With their permission they could be offered registration for employment and volunteering purposes. They might earn a premium income turning their disease into an asset for themselves and society. I identified clinical, public health, legal, ethical, and social issues requiring research and scholarship as well as public debate.^{1,2} The Royal College of Physicians of Edinburgh hosted a video on this proposal (<https://learning.rcpe.ac.uk/course/view.php?id=707>).

Since then, there has been much scholarly and media based debate especially about “immunity passports,” much of the controversy around antibody testing.^{4,6-10} The phrase immunity passport implies a guarantee that cannot be achieved. The World Health Organization cautioned against this on 24 April.¹¹ I have, however, not changed my mind and think the emphasis on antibody testing is misplaced and is unnecessary, especially as much immunity to respiratory viruses is largely not humoral.¹² It is a matter of probabilities, as there can never be certainties.

Public involvement has been slow despite media publicity. Chile, to my knowledge, is the first country to formally adopt this proposal. Scientific literature records differing opinions but discusses obstacles and benefits.⁶⁻⁹ It is time to go beyond opinion, but research is just getting under way. The public, scholars, and policy makers together need to debate this idea as a component of exit strategies. I think the

public, and especially those who have been ill, might find the idea more attractive than my fellow scholars and researchers. Is it time for a citizens’ jury?

Competing interests: None declared.

- 1 Bhopal R. The burning building: recruiting recovered COVID-19 patients to the frontline [electronic response to Godlee F. The burning building]. *BMJ* 2020. <https://www.bmj.com/content/368/bmj.m1101/rr-5>
- 2 Bhopal R. The burning building: recruiting recovered covid-19 patients to the front line by issuing certificates and offering registration [electronic response to Godlee F. The burning building]. *BMJ* 2020. <https://www.bmj.com/content/368/bmj.m1101/rr-12>
- 3 Godlee F. The burning building. Editor’s choice. *BMJ* 2020;368:m1101doi: 10.1136/bmj.m1101
- 4 Andersson M, Low N, French N, et al. Rapid roll out of SARS-CoV-2 antibody testing—a concern. *BMJ* 2020;369:m2420. doi: 10.1136/bmj.m2420 pmid: 32580928
- 5 Kumleben N, Bhopal R, Czypionka T, et al. Test, test, test for covid-19 antibodies: the importance of sensitivity, specificity and predictive powers. *Public Health* 2020doi: 10.1016/j.puhe.2020.06.006
- 6 Phelan AL. COVID-19 immunity passports and vaccination certificates: scientific, equitable, and legal challenges. *Lancet* 2020;395:1595-8. doi: 10.1016/S0140-6736(20)31034-5 pmid: 32380041
- 7 Persad G, Emanuel EJ. The ethics of covid-19 immunity-based licenses (“immunity passports”). *JAMA* 2020;323:2241-2. doi: 10.1001/jama.2020.8102 pmid: 32374357
- 8 Hall MA, Studdert DM. Privileges and immunity certification during the covid-19 pandemic. *JAMA* 2020;323:2243-4. doi: 10.1001/jama.2020.7712 pmid: 32374358
- 9 Fraser B. Chile plans controversial COVID-19 certificates. *Lancet* 2020;395:1473. doi: 10.1016/S0140-6736(20)31096-5 pmid: 32386581
- 10 Armstrong S. Why covid-19 antibody tests are not the game changer the UK government claims. *BMJ* 2020;369:m2469. doi: 10.1136/bmj.m2469 pmid: 32580936
- 11 World Health Organization. “Immunity passports” in the context of covid-19. Scientific brief. 24 April 2020. <https://www.who.int/news-room/commentaries/detail/immunity-passports-in-the-context-of-covid-19>
- 12 Kohlmeier JE, Woodland DL. Immunity to respiratory viruses. *Annu Rev Immunol* 2009;27:61-82. doi: 10.1146/annurev.immunol.021908.132625 pmid: 18954284

This article is made freely available for use in accordance with BMJ’s website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.